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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/820,074

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Charles L. Gray JR.

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EXAMINER

HAMO, PATRICK

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

09/04/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/820,074

Applicant(s)

GRAY ET AL.

Examiner

Patrick Hamo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-9 and 11-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-9 is/are allowed.
- 6) ☒ Claim(s) 1,2 and 11-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

This action is in response to amendments filed on June 6, 2007.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-16 are rejected under 35 U.S.C. 102(b) as being anticipated by  
Valentin, Pat. No. 6,406,271.

Valentin discloses a valve plate 16 for a swash plate piston pump, the valve plate comprising first 73 and second 74 kidney-shaped semi-circular ports that define inner and outer circumferences of an annular region and first 75 and second 76 compensating ports at top-dead center 41 and bottom-dead center 42 positions, respectively, and are in fluid communication with each other before, during and after respective dead-center positions (col. 12, ll. 55-56) so that the pressures at top-dead center and bottom-dead center are equalized (col. 13, ll. 1-5), port 73 connected to a high-pressure fluid source and port 74 to a low-pressure source, a cylinder barrel 3 having an even number of cylinder bores 9 (col. 6, ll. 15-26) formed circularly in the barrel, alternately contacting ports 73 and 74 as the barrel rotates, where by virtue of the even number of cylinders and the symmetry of the top-dead center and bottom-dead

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center positions, a first cylinder is at top-dead center when a second is at bottom-dead center and, as the barrel rotates, a third cylinder approached top-dead center when a fourth reaches bottom-dead center (col. 12, l. 50 – col. 13, l. 11), wherein the first cylinder is put in communication with kidney-shaped port 73 just as the second cylinder is put in communication with kidney-shaped port 74, and the fluid communication between the first cylinder and port 73 is broken just as fluid communication between the second cylinder and port 74 is broken.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valentin, Pat. No. 6,406,271.

Valentin discloses a valve plate 16 for a swash plate piston pump, the valve plate comprising first 73 and second 74 kidney-shaped semi-circular ports that define inner and outer circumferences of an annular region and first 75 and second 76 compensating ports at top-dead center 41 and bottom-dead center 42 positions, respectively, and are in fluid communication with each other (col. 12, ll. 55-56), the first

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and second ports configured to be selectively coupled to high-and low-pressure fluid sources or low- and high-pressure fluid sources respectively.

Valentin does not disclose explicitly that the first and second pressure relief ports are located substantially outside the annular region. However, this claimed limitation constitutes a mere rearrangement of parts and, absent an unexpected result, fails to patentably distinguish over the prior art of Valentin.

### ***Response to Arguments***

The amendments to claims 4 and 14-15 have been received and serve to overcome the rejection of claim 6 under 35 U.S.C. § 112 and the objections to claims 14-16.

The examiner has received the applicant's supplemental explanation regarding the limitations of claim 9 and consequently withdraws the rejection of claim 9 under 35 U.S.C. § 112.

Applicant's arguments filed June 6, 2007 with respect to claims 1,2 and 11-16 have been fully considered but they are not persuasive.

In regards to claim 1, the applicant argues that Valentin fails to anticipate "first and second ports, each having a shape that describes a portion of a circle, formed in the valve plate and positioned such that the first and second ports define inner and outer circumferences of an annular region of the valve plate; a first pressure relief port

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located in the valve plate substantially outside of the annular region at a top-dead-center position; and a second pressure relief port located in the valve plate substantially outside of the annular region at a bottom-dead-center position". Evidence for this is identified by pointing to figure 10 and text at column 12, lines 56-59 which the applicant claims to demonstrate that the compensating ports 75, 76 have "the same or nearly the same width" as the main ports 73, 74. However, it is the opinion of the examiner that the applicant has misinterpreted the reference and that it is the paths 78 between the main port 73, 74 and compensating ports 75, 76 that have the same or nearly the same width *as each other*. Accordingly, Valentin does not expressly limit the position of the compensating ports 75, 76 to the annular region defined by ports 73, 74 and therefore a finding of obviousness absent unexpected results is valid.

In regards to claim 2, the applicant argues that Valentin is not "configured to be selectively coupled to high- and low-pressure fluid sources or low- and high-pressure fluid sources respectively" because the inclination of bores 17 teach away from such operation. However, though the design is aimed at reducing turbulence when operated according to Valentin's disclosure, it does not prevent the capability of operation in reverse, which would effectively reverse the low- and high-pressure couplings. Therefore, Valentin anticipates the invention in that it is capable of being selectively coupled to low- and high-pressure fluid sources or vice versa.

In regards to claim 11, the applicant argues that Valentin fails to anticipate "means for equalizing fluid pressure in pairs of the plurality of cylinders on opposite sides of the circular arrangement after the cylinder ports of each pair of cylinder begin to

cross top-dead-center and bottom-dead-center of rotation, respectively.” However, while Valentin’s cylinder bores come into contact with the compensating ports before reaching top-dead-center or bottom-dead-center, they remain in contact through dead-center and even after they have past dead-center. Throughout the period of contact, equalization of fluid pressure is taking place, including the period *after* the ports have passed dead-center. Therefore, the rejection of claim 11 with Valentin is sound.

Similarly for claim 13, the process of placing the cylinders in fluid communication with each other happens before, during, and after the cylinders have reached dead-center positions, therefore rejection of claim 13 is also sound.

Applicant’s arguments, see pages 11-13, filed June 6, 2007, with respect to claims 4-9 have been fully considered and are persuasive. The rejections of claims 4-9 have been withdrawn.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

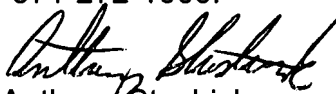
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Hamo whose telephone number is 571-272-3492. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



PH



Anthony Stashick  
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Art Unit 3746